Concordia
UNIVERSITY

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Engineering & Computer Science BITS

CEAB to Visit Revised Industrial Programme in February

The revised programme in Industrial Engineering was approved by Senate at its October meeting. Several new courses will, therefore, be offered in the upcoming winter term. A team from CEAB will visit Concordia on February 27 and 28, 1995 to evaluate the changes. Provided the CEAB grants accreditation to the revised programme after the team visit, students graduating in May '95 will receive accredited degrees.

In the meantime, the Faculty and the University have continued to address the concerns of students in Industrial Engineering. On Monday, November 14, Industrial Engineering students were given the opportunity to meet with two Faculty alumni and discuss the experience of moving from university to industry.

Lucy Macaron graduated from the Industrial option of Mechanical Engineering in 1985. She has worked for nine years in industry and recently opened her own consulting firm. Ms. Macaron told students that she entered a job market that was just recovering from a recession, as the market is now, and that the economic situation made her pay a lot more attention to her CV. "The CV is your calling card, " she explained, "it's how you get your foot in the door." She emphasized that, in general, getting hired depends more on personality, language skills, communication abilities and company politics than on GPA and where you went to school. "After you get your first job, no one ever asks about where you studied, that job becomes your new base-line."

Daniel Mastrocola, who works for a consulting firm which provides services to large utilities, completed a B.Comm in Economics before obtaining his B.Eng. (Building Engineering) in 1990. He stressed that companies are looking for people who are flexible and able to cope with change. "In today's market, companies use fewer people to do the same amount of work. The more skills you bring with you, the more roles you can play, the better your chances of getting a job." He also told the students not to get discouraged if they received rejections at first. "The reality of the situation is it is a full-time job trying to find a job. You should always get the name of the person you're writing to, you should always follow up by phone on the CV's you've sent. It's a lot of work and nine times out of ten you get nothing, but it's that tenth time you're looking for."

Students asked the speakers if industry's impression of Concordia Industrial students had been tarnished by publicity arising from the CEAB decision not to accredit their programme. Both Ms. Macaron and Mr. Mastrocola said that while they sympathized with the students' concerns and could understand their anxiety, they did not believe that there had been sufficient publicity to seriously hamper the students' chances of finding jobs. "Coming from a specific programme at a specific place is going to count for very little," said Mr. Mastrocola, "what you have to concentrate on is selling yourself and your attributes."

Following the meeting, Industrial students in third and fourth year received academic advising from members of the Faculty's Student Affairs Office in order to adjust their winter-term schedules to the revised Industrial Engineering programme.

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Faculty to Take Part in Establishing Industry-University Pilot Project

Le Centre d'Initiative Technologique de Montréal (CITEC) was founded in 1987 by business, government and university leaders in the Montreal area. In 1989, it began development of a major research and science park to bring together university and private sector R&D. In 1991, the government of Québec mandated CITEC to coordinate the first review of science and technology in the Montréal area (including Laval, the South Shore and the lower Laurentians). The results of this survey were published in 1992 as the Review of Science and Technology in the Montréal Area. One of the Review's recommendations was to increase the rate of technology transfer between universities and industry.

CITEC has now embarked on a pilot project with Concordia University called *Direct Application of M.Sc. and Ph.D. Thesis Work to Company Needs*. While graduate students have worked with industry in the past, this type of industry/university collaboration has been largely dependent on individual initiatives and special arrangements. The working group for this project is now trying to craft an action plan which will facilitate the application of thesis work to company needs on a formal and continuing basis.

The working group, headed by Dr. Morel P. Bachynski of MPB Technologies, includes representatives from Canadian Marconi Company, Spar Space Systems, Pratt & Whitney Canada, two professors from the Faculty of Engineering and Computer Science, Drs. Stanley Kubina (Associate Dean - Strategic planning) and Tho Le Ngoc (Electrical and Computer Engineering) and a graduate student representative, Moataz El-Karmalawy (Mechanical Engineering).

The first meeting of the working group occured in early November. Future editions of Bits will follow the group's progress.

Les Prix Michael Smith

En 1993, Dr. Michael Smith a fait don de la somme accompagnant son Prix Nobel en chimie à des fins de recherche en schizophrénie et de promotion des sciences. <<Puisque j'attribue à un enseignant l'intérêt que m'ont inspiré les sciences alors que j'étais jeune garçon, j'applaudis ceux qui savent inspirer à d'autres une telle passion>>, a souligné Dr. Smith.

Le 2 novembre 1994, les quatorze lauréats des premiers Prix Michael Smith pour la promotion des sciences ont été annoncés au Musée national des sciences et de la technologie. REACH, le camp d'été scientifique des étudiants en génie et informatique à Concordia et McGill, a partagé un des prix comme membre du Camps canadiens pour les jeunes en sciences et génie (CampsCJG). CampsCJG est un réseau de 15 camps, tous organisés par les étudiants en génie, qui offre des activités scientifiques concrètes à des enfants de 9 à 13 ans. Chaque camp offre à sa communauté un nombre des activités complémentaires, des ateliers de formation d'enseignants et des ateliers donnés en classe à des étudiants. Grâce aux membres du réseau, plus de 100,000 jeunes au Canada ont decouvert les merveilles de la génie.

Lab Dedicated to Memory of Dr. Phoivos Ziogas

On Thursday November 3, 1994, approximately 50 people attended a ceremony held by the Department of Electrical and Computer Engineering to dedicate the Power Electronics Laboratory (H0027) to the memory of slain professor, Dr. Phoivos Ziogas. The ceremony was organized and hosted by Dr. Asim Al-Khalili who said that Dr. Ziogas will now continue to inspire even those students who will not have the honour of knowing him.

During his years at Concordia, Dr. Ziogas was the driving force behind the development of a power electronics team which was well-known for its expertise by those outside the University. His own research focused on designing macro-processor control circuits and high power digital and analog control circuitry for driving motors. Through grants from both external and internal bodies, he obtained equipment which updated the Power Laboratory and provided state-of-the-art facilities for students and researchers. He was also instrumental in developing the courses, laboratories and tutorials which went along with the equipment. The Power Electronics Lab was the place where Dr. Ziogas conducted his research and spent most of his time. Dr. Al-Khalili explained that Dr. Ziogas could often be found in the laboratory on weekends with his young sons, Mishe and Ilye, who attended the ceremony along with their mother, Frances Auerbach-Ziogas, to unveil two plaques marking the dedication of the lab. A reception was held in the Faculty Club following the ceremony.

Faculty Members on 3 of 5 Seagram's Teams

The Seagram's Fund for Academic Innovation reception was held on November 3, 1994 at Loyola. Awards unique and innovative research were presented to five project teams. Faculty from Engineering and Computer Science were on three of the five winning teams.

International Corpora of English, ICE-Canada

The scientific study of language is made possible through the use of corpora which provide researchers with a statistically accurate sampling of language. In order to create corpora, a large number of language samplings, typically 1 million words or more, must be collected and analysed. Because computers are ideal for processing huge amounts of information, they have been instrumental in the development of major corpora over the past 30 years. ICE - the international Corpora Project - is an multi-national project involving 20 research teams in 16 countries. When complete the corpus will include approximately 15 - 20 million words of contemporary English, both spoken and written. ICE-Canada began at Queen's University in Kingston and recently moved to Concordia where it is under the direction of Drs. Nancy Belmore (TESL) and Sabine Bergler (Computer Science). They will complete the data collection for the spoken corpus, digitize and transcribe the spoken corpus and grammatically analyse both the spoken and written corpora. The Canadian contribution to ICE will be on the order of 1 million words.

Developing a Prototype for Accessing Virtual Libraries

Thanks to the computer revolution and the advent of the Internet and the World Wide Web, the average computer user now has access to unfathomable amounts of information. Unfortunately, while the information is accessible, due to different standards in data storage, it is often in a format which is unfamiliar to the user, and thus difficult to the access. Drs. Rajjan Shingal and Bipin Desai, from the of Computer Science, are developing a prototype which will convert this data into a format which is easily accessible to the user. Instead of having the user deal with unfamiliar information systems, the prototype would be able to convert electronically stored documents, data etc... into to the format of the local information system, in effect augmenting that local system.

Total Quality Management (TQM)

TQM is a systematic, organization-wide strategy for improving product and service quality to meet or exceed customer expectations. Despite the recent popularity of TQM in Canadian organizations, there is a growing concern regarding problems and confusion associated with its effective implementation. Dr. Akif Bulgak (Mechanical Engineering), along with Drs. Mohan Gopalakrishnan (Decision Science and MIS), Mrugank Thakor (Marketing) and David Waldman (Management), plan to address problems and clarify confusion through a interdisciplinary study of TQM implementation issues. When concluded, the two-phase, two year project should have a number of policy implications for Canadian firms attempting to use TQM to maintain their competitiveness.

Québec Engineering Competition 1995

The Organising Committee
for QEC '95 is expecting
50 teams to participate
in this event
which will be held from
February 9-12, 1995.
Eleven teams -
5 from Université de Sherbrooke,
2 from the Université du
Québec à
Abitibi-Témiscamangue
and 4 from Concordia -
have already expressed their
interest in participating.
For those interested in competing,
applications are
now available from
ECA (H 880-10)
or the
QEC Offices (ER 400-7).
Copies of the Rules and
Regulations are also avaliable
through the QEC Offices.

Concordians Speak Out

What do Concordians - the people who study, teach and work at this university - think of Concordia? The members of the Institutional Marketing Committee asked themselves this question and the answers they received were unveiled on Tuesday, November 15, as the newest addition to the University's institutional marketing effort. Seven posters, each featuring a student, a professor and a staff member and their thoughts about Concordia will be distributed throughout the University in order to encourage all Concordians to celebrate their diversity and spirit. As Dr. Hal Proppe, Interim Vice Rector - Institutional Relations and Finance, said at the poster launch, "We have great pride in our University; its about time we let people know that."

Of the 21 people featured in the "Concordians Speak Out" posters, three are from the Faculty of Engineering and Computer Science. Hélène Barrette, a third year student at the Centre for Building Studies, said she was a little concerned when she received a call from the University in the middle of the summer break. When she found out what the call was about she was "surprised but honoured to represent undergraduate students." Joe Hulet, a doctoral student in Mechanical Engineering, summed up his participation in the project this way, "It provided me with a way to express my appreciation for the academic and career opportunites that I have felt fortunate to obtain both within the Faculty and the larger University community. It also allowed me to acknowledge the support others have given me over the years."

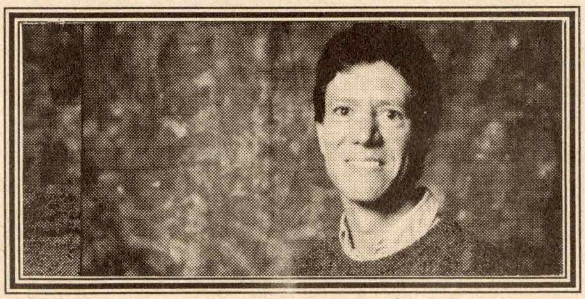
The pictures and testimonials of the engineering and computer science participants are reprinted below.

Hélène Barrette, Undergraduate Student, Centre for Building Studies

For me, it's the people at Concordia and the fact that my department is fairly small and you can get to know most people - you can get involved and make lots of friends. In the two years that I've been here...lots of work...lots of headaches but lots of really interesting courses. I was one of six women on a team that built a toboggan to compete in the Great Northern Concrete Toboggan Race. We had a blast, ending up sixth. We made a lot of friends and have been talking about donating the toboggan; we just want to do something useful with it. The experience is something I will never forget as long as I live.

Joseph Hulet, Doctoral Student, Mechanical Engineering

Over the years as a student and an employee, my impression has remained that of working with others to accomplish common goals. I have always felt fortunate that I have been offered flexibility and support. This applied whether continuing my academic studies or being given the freedom and encouragement to establish improved computer facilities within the Mechanical Engineering Department (MED). The people I've worked with, previously during my many years of evenings at the Information Desk and presently at the MED, have been more like members of an extended family. That would be difficult to find anywhere else.



Les Landesberger, Associate Professor, Electrical and Computer Engineering

The most enjoyment I get out of my job is when I can spare the time to talk to students to make things clear. I get a charge out of teaching, a charge out of being good to people. One thing that is really satisfying about my lab is that it's a hands-on experience both for graduate and undergraduate students.

Faculty Faces

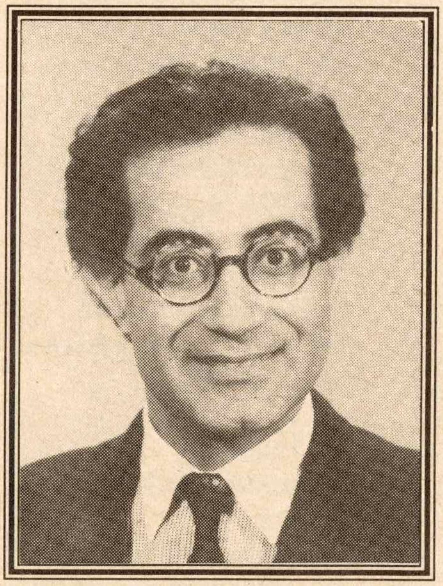
Dr. Osama Moselhi - Centre for Building Studies

Faculty Faces is a regular feature of *Bits* focussing on personalities within Engineering and Computer Science.

Dr. Osama Moselhi is a Fellow of the Canadian Society of Civil Engineers, Director and Chair of the publication Committee of the International Association of Automation and Robotics in Construction and Past-President of the Montréal section of the American Association of Cost Engineers. He has been offered positions at other universities, including a highly prestigious Industrial Chair, but he opted to stay in Montréal at Concordia. "I decided that I liked the variety at Concordia, the Centre for Building Studies is one of the few places where I can combine and apply my knowledge of structures, analysis and design, and construction engineering in an integrated environment. The University made it clear it would like me to stay; I didn't want to let it down."

Dr. Moselhi completed his Bachelor of Science in Civil Engineering at Cairo University ('70) and his M.Eng. at Memorial University of Newfoundland ('75). He received his Ph.D. in the analysis of tall building structures from Concordia ('78). He has taught at Concordia on and off for almost 20 years - full-time since 1985 - but his professional experience is split almost 50/50 between work in industry and work in academia.

Dr. Moselhi began his professional career as a structural engineer for the Egyptian Ministry of Housing and Public Utilities. After completing his Ph.D., he joined Canatom Canada as Senior Engineer, Specialist and Assistant Section Head in the analysis and design of nuclear power plant facilities. As a supervisor of 10 Ph.D. engineers, he found the work at Canatom very stimulating. "We were designing facilities which were ahead of Code for that time and were continually pushing the limits of the cutting-edge against fierce competition from teams in the United States, Germany, Sweden and France." His team also faced the challenges of designing and constructing facilities in other countries: prefabrication due to lack of resources, modified design due to local seismic conditions, lack of expertise in the host country. Leaving Canatom in 1982, he worked for three years in Saudi Arabia as a Construction Management Advisor on harbour and off-shore facilities for the Jubail Port Management.



In 1985, Dr. Moselhi returned to Montréal and the Centre for Building Studies where he has been instrumental in developing the popular construction management specialty. "What we have in construction management is a team effort with myself and Dr. Sabah Alkass working full-time in this area with the support of Drs. Paul Fazio and Claude Bédard. Completing the team are two adjunct professors and a number of part-time instructors from industry who are able to give our students a real perspective on what it is like to work in the field. We are working on monthly seminars where students and members of industry are invited to present specific topics in construction engineering such as cost estimation, scheduling and equipment management." According to Dr. Moselhi, Concordia's expertise in this area is second to none.

While he continues to teach at CBS and to develop the Construction Management Team, Dr. Moselhi is also involved in ground-breaking research for Hydro-Québec. He and his research team are developing a set of design and performance specifications for fibre-reinforced composite poles for distribution network of Hydro as an environmentally friendly alternative to traditional wooden poles. The poles, which will have a life expectancy of 50-80 years, will not need to be chemically treated for weather-resistance and, therefore, will not leech chemicals into topsoil. In addition, since composite materials can be manufactured in any colour, shape and size, they will be more aesthetically pleasing than wooden poles. During the 6 month, 65 thousand dollar project, Dr. Moselhi's team is looking at all aspects of the pole design, particularly the tendency for composite materials to break down under exposure to ultra-violet light. "This is a very exciting project. It is unique in Canada and it has great potential for export. At CBS we have the expertise and the facilities which industry needs for this type of R&D."

For more information about course offerings in Construction Management or Dr. Moselhi's research, please call CBS at 848-3200.

Around the Faculty...

Centre for Building Studies

- Lora Pasqualetto, a Masters student at CBS, was awarded a $500 bursary by the Association québécoise pour la maîtrise de l'enérgie at the Gala Energia in October. Ms. Pasqualetto was a finalist in the student category with her "*Projet d' évaluation de logiciels d'analyse énergétique détaillée: BESA-Design et Micro-DOE 2.1D*". Also attending the Gala were Bassem Abushakra, last year's winner in the student category, and Dean Taddeo.

- On Monday, November 7, Dr. Jon Gerrard, Secretary of State - Science, Research and Development, visited SIRICON. He is touring various institutions across the country which are involved in the Technological Outreach Programme (TOP) of Industry, Science and Technology Canada. Dr. Gerrard met with members of SIRICON and CBS, as well as Dr. R. Parker (Interim Vice-Rector Academic), Dean Taddeo and Dr. T. Stathopoulos (Associate Dean - Academic and Administrative Affairs).

Civil Engineering

- On Friday, December 2, the Department of Civil Engineering will hold a ceremony in order to dedicate the Mechanics of Materials Laboratory to the memory of Dr. Matthew Douglass. The ceremony will take place at 16h00 outside room BE 379 in the Centre for Building Studies (1257 Guy). A reception will follow.

Computer Science

- Throughout the academic year the Department of Computer Science offers seminars on topics of interest to its members. Recent speakers have included:

- Dr. Sunhil Shendae
  Department of Computer Science and Engineering,
  University of Nebraska at Lincoln
  Efficient Algorithms for Erasure Node Placement of DQDB Networks.

- Dr. Marc Freely
  Université de Montréal
  Teaching Computer Science with SCHEME

- Dr. Yun Peng
  Department of Computer Science,
  University of Maryland Baltimore County
  A Learning Method for Belief Networks

The next seminar takes place on November 29 when Mr. Eric Garceau from IBM will give a presentation titled *Operating System: OS/2 WARP*.

Electrical and Computer Engineering

- Dr. Rabin Raut has been invited to chair the session, Analog Integrated Circuits, at the First Conference on Electronics, Circuits and Systems to be held in Cairo, Egypt in December 1994.

- Dr. Tho Le Ngoc is co-author of the recently published Coded-Modulation Techniques for Fading Channels (Kluwer Academic Publishers, 1994). He has also co-authored a chapter entitled " Algorithms and Architectures for the Design of a VLSI Reed-Solomon-Codec" in the book, Reed-Solomon Codecs and Their Applications (IEEE Press, 1994).

Mechanical Engineering

- For the past 11 years, Dr. Robert Pallen (Chemistry and Biochemistry) has organized a two-day Concordia science and engineering exhibition at Stuart Hall in Pointe Claire. The Department of Mechanical Engineering took part in this year's exhibition, which was held on October 29 and 30. Visitors were invited to play Tic-Tac-Toe against a computer which drew its moves through the use of a SCORBIT Robot. The Tic-Tac-Toe programme was developed by graduate student Peter Lawn. CBS and Computer Science also took part in the exhibition.

**Reduce, Reuse,
Recycle,
Recover –
Please do your
part, recycle
this copy of
*Bits.***

Search Committee for Dean of Engineering and Computer Science

The Advisory Search Committee for a Dean of the Faculty of Engineering and Computer Science started its work in September. The role of the Advisory Search Committee is to recommend to the Board of Governors a candidate to succeed Dr. Donat Taddeo upon conclusion of his term as Dean of the Faculty on May 31, 1995. It is the Board of Governors which will appoint the new Dean.

The Committee comprises eleven members who were elected by the Board.

Mr. Leo Goldfarb, a Board member from the external community, is chairing the Committee. The Board of Governors is represented by Mr. Brian Aune, a member from the external community, and Dr. Peter Pitsiladis, a faculty member in the Faculty of Commerce and Administration. The senior management is represented by Dr. Robert Parker, Interim Vice-Rector, Academic. Ms. Amely Jurgenliemk (Office of the Secretary-General) is serving as Secretary to the Committee. She may be reached at 848-7319.

The Faculty of Engineering and Computer Science is represented by : Dr. M. Omair Ahmad (Electrical and Computer); Dr. Jeremiah Hayes (Electrical and Computer); Dr. M.O.M. Osman (Mechanical); Dr. Hormoz Poorooshasb (Civil); Mr. Daniel Leibu, (Computer Science); Mr. Jafar Arghavani (Mechanical); and Mr. William Wong (Computer Science).

According to the new Procedures for Advisory Search Committee's adopted by the Board of Governors earlier this year, a meeting of short-listed candidates for the position of Dean with the Faculty Council should occur in the early spring of 1995. In order to make allowance for the Christmas break, the Committee has extended the deadline for application from December 15, 1994 to January 15, 1995.

Your input and suggestions are welcomed throughout the search process, please contact Mr. Guy Lemelin (Raymond, Chabot, Martin, Paré 393-4709), or any member of the Committee with your comments.

In the spirit of the Season
the ECA is collecting

Toys, Clothing
& Non-Perishable Food Items
for donation to
The Old Brewery Mission
and Sun Youth

Contributions can be brought to ECA,
H 880-10,
before Tuesday, December 6, 1994

Engineers of Tomorrow to Visit Faculty

On January 25, 1995, 80 senior high schools students - all women - and their teachers will come to Concordia for the Third Annual Engineers of Tomorrow Conference. Organized by the Engineering and Computer Science Association (ECA), the conference is designed to encourage young women to consider engineering and computer science as academic and career options. The day includes lab tours, hands-on projects and invited speakers, this year featuring Dr. Monique Frize holder of the Northern Telecom Industrial Chair in Women in Engineering at the University of New Brunswick.

The organizing committee for Engineers of Tomorrow consists of Natasha D'Souza, Charmaine Jergens and Aline Khoriaty, all from the Electrical and Computer Enigneering Department. They have initiated contact with nine high schools in the Montréal area, and are currently working on obtaining corporate sponsorship for the event. Previous conferences would not have been possible with out the generous help of many people - tour guides, lab instructors, speakers, gophers etc... - so, with just over two months before the event, organisers are looking for volonteers.

To learn more about Engineers of Tomorrow please contact Natasha D'Souza at 7408. People interested in volonteering their services can sign up at ECA.

Other Notes of Interest...

- Stanley Yee, Building Engineering '94 and President of ECA '93-'94, is working in Hong Kong for a manufacturer of curtain wall components.

- Kim Adams (Electrical and Computer Engineering) and Stephanie Roberts (Computer Science) are both members of the Montréal Inter-Hospital Choir. Their Christmas Concert will take place on December 10 at 19h00 in the Erskine American Church on Sherbrooke St. For more information call Kim at 3104.

Erratum

In the last issue of Bits, it was reported that Prof. Hasan Jamil had received his Ph.D. in Computer Science this year. Prof. Jamil is, in fact, still completing his Doctoral studies. My apologies for any inconvenience or misunderstanding this error may have caused.

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